

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method for reducing unwanted noise in a communication signal, comprising:

- (A) receiving a digital input stream;
- (B) pre-emphasizing said received digital input stream producing pre-emphasized data;
- (C) storing said pre-emphasized data in a buffer;
- (D) concatenating said buffer containing said pre-emphasized data to produce a frame of data;
- (E) windowing said frame of data to provide data with a minimum of spectral leakage;
- (F) transforming said windowed data into the frequency domain as frequency domain data, storing said frequency domain data in buffer as one or more frequency bins;
- (G) calculating a power estimate for said frequency domain transformed data, wherein said calculating a power estimate further comprises

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- (1) calculating an array of power estimates corresponding to each of said frequency bins
- (2) determining if signal normalization is required;
- (3) if said signal normalization is required, calculating overall frame power; and
- (4) calculating a value of mean power per bin;
- (H) temporally smoothing said power estimate to produce time smoothed data;
- (I) transversally smoothing said time smoothed data to produce smoothed power data;
- (J) weighting frequency values based on said smoothed power data to provide weighted FFT data;
- (K) inverse transforming said weighted FFT data to provide a time domain waveform;
- (L) inverse windowing said time domain waveform to provide a de-windowed time domain sample;
- (M) de-emphasizing said de-windowed time domain sample to remove frequency emphasis effects from said time domain sample; and
- (N) generating a digital output stream of said de-emphasized data.

Claim 2 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said received digital input stream originates from a cellular telephone having a digital voice output.

Claim 3 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said pre-emphasizing flattens the spectral energy of said received digital input stream.

Claim 4 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said concatenating said buffer, further comprises combining a previous input buffer with said buffer to provide a frame overlap of approximately 50%.

Claim 5 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said windowing employs a Hanning Window function.

Claim 6 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said windowing employs a Rectangular Window function.

Claim 7 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said transforming further comprises using a Fast Fourier Transform to create one or more resulting frequency domain data frequency bins.

Claim 8 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said calculation of power estimate further comprises

summing the squares of the real components of each frequency bin to the squares of the imaginary components of each frequency bin.

Claim 9 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said temporally smoothing further comprises averaging said power estimate.

Claim 10 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said temporally smoothing further comprises low pass filtering said power estimate.

Claim 11 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said transversely smoothing further comprises averaging said time smoothed data.

Claim 12 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said transversely smoothing further comprises low pass filtering said time smoothed data.

Claim 13 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said weighting frequency values further comprises:

- (1) generating an array of weighting scalars; and
- (2) multiplying said array of weighting scalars by said frequency domain transformed data.

Claim 14 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said inverse transforming uses an Inverse Fast Fourier Transform.

Claim 15 (withdrawn): A system for reducing unwanted noise in a communication signal, comprising:

- (A) a telephone;
- (B) a noise reducing telephone adapter in electronic communication with said telephone;
- (C) a speaker in electronic communication with said noise reducing telephone adapter; and
- (D) a microphone in electronic communication with said noise reducing telephone adapter.

Claim 16 (withdrawn): A system for reducing unwanted noise in a communication signal, as recited in claim 15, wherein said noise reducing telephone adapter, further comprises:

- (1) a processor;
- (2) an analogue to digital converter electrically connected to said processor;
- (3) a digital to analogue converter electrically connected to said processor; and

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(4) a memory unit electrically connected to said processor.